# Selen Parlar

## Research Assistant, Boğaziçi University

GitHub LinkedIn Scholar Medium

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## Education

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|---|---|
| 2018 - 2021 | **M.Sc.**, *Computer Engineering, Boğaziçi University*, İstanbul, Turkey. |
| | GPA: 3.88/4.00. Thesis: Heterogeneous Information Networks for Drug-Target Affinity Prediction |
| 2014 - 2018 | **B.Sc.**, *Computer Engineering, Marmara University*, İstanbul, Turkey. |
| | GPA: 3.57/4.00 (High Honor). Thesis: Deep Reinforcement Learning on Dataflow Architecture |
| 2016 - 2016 | **B.Sc.**, *Computer Engineering, Warsaw University of Technology* , Warsaw, Poland. |
| | GPA: 3.61/4.00. |

## Experience

○ 09.2019 –   : **Teaching & Research Assistant**, *Boğaziçi University, Istanbul*.
  - Participated in research studies on **machine learning**, **computational drug discovery**, **Turkish natural language processing**, **bioinformatics**, **cheminformatics**, and **biological text mining**;
  - Contributed to an accepted **research grant proposal** to The Scientific and Technological Research Council of Turkey (TUBITAK; $\approx$ 10% acceptance rate);
  - Instructed problem sessions with carefully crafted course materials for over 150 students, coordinated undergraduate teaching assistants, designed and graded assignments and term projects in **Systems Programming**, **Operating Systems Design**, **Database Systems**, **Bioinformatics**, and **Information Retrieval** courses. Received delightful feedback from the students and the lecturers.

○ 2020 –: **Research Assistant**, *TUBITAK, Istanbul*.
  - Designed and developed heterogeneous information network approaches for binding affinity prediction task, in a team;
  - Collect ad prepare data from various databases;
  - Contributed to documentation and project proposal and progress reports.

○ 5.2018 - 9.2019: **Data Scientist**, *Starlang, Istanbul*.
  - Worked on novel approaches to extract information from Turkish texts using natural language processing techniques;
  - **Published and presented** the novel approaches in Turkish NLP oriented conferences;
  - Contributed to documentation of **open-source** Turkish WordNet and nlptoolkit repositories.

○ 1.2017 - 7.2018: **Undergraduate Teaching Assistant**, *Marmara University, Istanbul*.
  - Describe, deliver, implement and evaluate course projects (Java, C);
  - Prepare and present course materials in the lab hours;
  - Help students comprehend course materials and help lecturers during lab sessions.

○ 7.2016 - 9.2016: **Internship**, *EXEDRA E-Business Solutions*Istanbul, Istanbul.
  - Responsible for developing a web application for monitoring a web site's health situation in C#;
  - Create a web application and design a web interface with an MVC pattern.

## Publications

○ Bilge Nas Arıcan, Starlang Yazilim Danismanlik, Merve Ozcelik, Deniz Baran Aslan, Elif Sarmis, **Selen Parlar**, Olcay Taner Yıldız. Creating domain dependent Turkish wordnet and sentinet. In Proceedings of the 11th

Global Wordnet Conference (pp. 243-251), 2021.

- **Selen Parlar**, Bilge Nas Arıcan, Mehmet Erkek, Kamil Çayırlı, Olcay Taner Yıldız. Domain Dependent WordNet for Real Estate. Signal Processing Applications, 2019.
- Rıza Özçelik, Gökçe Uludogan, **Selen Parlar**, Özge Bakay, Özlem Ergelen and Olcay Taner Yıldız. User Interface for Turkish Word Network KeNet. Signal Processing Applications, 2019.
- Gökçe Uludoğan, Rıza Özçelik, **Selen Parlar**, Gökhan Ercan and Olcay Taner Yıldız. User Interfaces for Turkish Natural Language Processing. Signal Processing Applications, 2019.
- Gökhan Ercan, Orçun Erkek, Onur Açıkgöz, Rıza Özçelik, **Selen Parlar** and Olcay Taner Yıldız. Data Set Generation for Analysing of Turkish Semantic and Sentence Similarity. 2018 3rd International Conference on Computer Science and Engineering (UBMK), Pages 347-351, 2018.

## Additional Academic Activities

- **Writer** in Medium (Username: parlarselen).
- Reviewer in Signal Processing Applications **(SIU), 2019** & **2020.**

## Projects

- **Drug Repurposing:** An approach to DTI problem by edge prediction on heterogeneous information networks
- **Turkish NLPtoolkit:** Implementing and contributing an open source NLP toolkit and WordNet specific to Turkish
- **Protest News Detection:** Classification of news as protest/non-protest using summarization and Hierarchical Attention Networks
- **Music Generation:** Classical music generation via HMM and VAEs
- **TQAS:** Turkish question answering system
- **ESP:** Extractive summarization program
- **MRS:** Movie recommendation system
- **DRS:** Simple document retrieval system
- **POS**-**T:** HMM-based POS tagger for Turkish
- **LIS:** Language identification system to detect the language of a document
- **MIST:** A game created via GameMaker for Software Engineering Course
- **GA for MWISP:** An implementation of a genetic algorithm for Maximum Weighted Independent Set Problem
- **P2P App:** An implementation of a secure peer to peer messaging application
- **Handwritten Digit Recognition:** An implementation of a machine learning task by using neural networks
- **RL on DF:** An implementation of Deep Reinforcement Learning algorithm for learning and playing Atari games and acceleration by using Dataflow architecture

More detail shall be provided for each project upon request.

## Related Courses

- Artificial Intelligence, Deep Learning, Machine Learning, Natural Language Processing
- Computational Genomics, Bioinformatics
- Information Security, Information Retrieval
- Graph Algorithms and Applications
- Planning and Management of Research

## Extracurricular Activities

- 2014 - : **Volunteer**, *Community Volunteers Foundation (TOG), Istanbul.*
  - UNIQ: Attend 23 April National Sovereignty and Children's Day Activities at UNIQ Museum's Leonardo Da Vinci Expo;
  - Yuva: Attend 23 April National Sovereignty and Children's Day Activities with Syrian refugees at Yuva Association;
  - SomAtak: Helped to beautify a primary school in Soma, Manisa, Turkey and took care of the students who

lost their family members in a mine accident;
- Mutluluk Engel Tanımaz: Spent the 2017 New Year's Eve with children who have disabilities;
- Bir Kitap Bin Umut: Collect books in order to send some student libraries;
○ 2014 - 2016: **Member**, *Reading club in Boğaziçi University, Istanbul.* Read one book and then criticize it as a group once in a month.
○ 2015 : **Volunteer**, *Cologne-Twente Workshop on Graphs & Combinational Optimization, Istanbul.* Worked as a volunteer at a national conference organization team.
○ 2013 - 2015 : **Volunteer**, *International Association of Students in Economic and Commercial Sciences, AIESEC, Istanbul.* Worked for a not-for-profit organization.
- Organization Committee Member of Marketing Department
  Designed some visual advertisement to promote social responsibility projects;
- Team Member of Human Resources Department
  Organized an event to throw people together to share their experiences;
- Organization Committee President of Projects
  Organized a social responsibility project called Myself My World. Led 7 committee members and worked with 56 university students from 30 countries and more than a hundred high school students. The project aimed to increase the awareness of high school students about world issues, raise their cultural awareness, and make them gain a worldwide network.
○ 2009 - : **Volunteer**, *The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA), Istanbul.*

## Achievements

○ Received The Scientific and Technological Research Council of Turkey (TUBITAK) **graduate student scholarship**, which was awarded top-performing and promising graduate students in Turkey
○ 2018: Got B.Sc. degree as the top 3 students with high honors
○ 2018: Senior year project is selected as the 3rd best project
○ 2012: 3rd place at Board of European Students of Technology Engineering Contest
○ 2009: Got 3 medals in a row for being the best student at Secondary School in İstanbul
○ 2008: 2nd place at composition contest about Republic Day in Turkey

## References

| Educational | Internship & Work |
| --- | --- |
| ○ Assoc. Prof. Dr. Arzucan Özgür | ○ Prof. Dr. Tuna Tuğcu |
| ○ Asst. Prof. Dr. Betül Demiröz Boz | ○ Prof. Dr. Olcay Taner Yıldız |
| ○ Asst. Prof. Dr. Berna Kiraz | (more upon request) |
| ○ Dr. Sanem Arslan Yılmaz | |
| (more upon request) | |